

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Previously Presented) A molding die comprising:

a pair of molding die members that forms a molding cavity that molds molded products;

a holding member that holds therein the pair of molding die members slidably, an inner surface of the holding member and an outer surface of the pair of molding die members being separated by a clearance;

a plurality of supply ports that supply a pressure-transfer medium located on one of the inner surface of the holding member and the outer surface of the pair of molding die members; and

a static pressure film of the pressure-transfer medium, the static pressure film filling the clearance;

wherein the pair of molding die members can be slid or held in the holding member by the static pressure film while the pair of molding die members and the holding member are in a non-contact state.

2. (Previously Presented) The molding die of claim 1, wherein the clearance between the pair of molding die members and the holding member is within a range of 0.1 – 100 μm .

3. (Original) The molding die of claim 1, wherein the pressure-transfer medium is gas or liquid.

4 - 7. (Canceled)

8. (Previously Presented) The molding die of claim 1, further comprising a supply path for the pressure-transfer medium connected to the plurality of supply ports; and

a fixed throttle provided on the supply path for regulating a flow of the pressure-transfer medium, and

wherein the plurality of supply ports are provided on one of the pair of molding die members for supplying the pressure-transfer medium to the clearance between the pair of molding die members and the holding member.

9. (Previously Presented) The molding die of claim 1, wherein the plurality of supply ports are provided on one of the pair of molding die members for supplying the pressure-transfer medium to the clearance between the pair of molding die members and the holding member,

wherein a circumference of at least one of the plurality of supply ports is recessed.

10. (Previously Presented) The molding die of claim 1, further comprising a supply path for the pressure-transfer medium connected to the plurality of supply ports; and

an automatic adjusting throttle provided on the supply path;

wherein the plurality of supply ports are provided on the holding member for supplying the pressure-transfer medium to the clearance between the pair of molding die members and the holding member.

11. (Previously Presented) The molding die of claim 1, wherein at least one of the supply ports is a porous member through which the pressure-transfer medium is supplied to the clearance.

12. (Previously Presented) The molding die of claim 1, wherein at least one of the pair of molding die members or the holding member is made of ceramic material.

13. (Original) The molding die of claim 1, wherein the molded products are optical elements.

14. (Previously Presented) A molding apparatus comprising:

a molding die comprising,

a pair of molding die members that form a molding cavity for molding molded products,

a holding member that holds therein the pair of molding die members slidably, an inner surface of the holding member and an outer surface of the pair of molding die members being separated by a clearance,

a plurality of supply ports that supply a pressure-transfer medium located on one of the inner surface of the holding member and the outer surface of the pair of molding die members, and

a static pressure film of the pressure-transfer medium, the static pressure film filling the clearance; and

a pressure-transfer medium supplying means for supplying the pressure-transfer medium to the clearance between the molding die member and the holding member,

wherein the pair of molding die members can be slid or held in the holding member by the static pressure film while the pair of molding die members and the holding member are in a non-contact state.

15. (Previously Presented) The molding apparatus of claim 14, wherein the clearance between the pair of molding die members and the holding member is within a range of 0.1 – 100 μm .

16. (Original) The molding apparatus of claim 14, wherein the pressure-transfer medium is gas or liquid.

17. (Previously Presented) The molding apparatus of claim 14, wherein the pressure-transfer medium supplying means supplies the pressure-transfer medium to the clearance under a pressure of 200 kPa – 2000 kPa.

18. (Previously Presented) The molding apparatus of claim 14, wherein the pressure-transfer medium supplying means supplies the pressure-transfer medium to the clearance at temperature of 100 - 1000°C.

19. (Previously Presented) The molding apparatus of claim 14, wherein the pressure-transfer medium supplying means supplies the pressure-transfer medium to the clearance at temperature of $(T - 200^{\circ}\text{C})$ to $(T + 200^{\circ}\text{C})$, where T represents glass transition point of a material for the molded products.

20 - 21. (Canceled)

22. (Previously Presented) The molding apparatus of claim 20, further comprising a plurality of a pressure adjustment mechanisms for adjusting pressures, wherein the pressure adjustment mechanisms control a distance of the clearance between at least one of the pair of molding die members and the holding member by regulating pressure of the pressure-transfer medium supplied from the plurality of supply ports.

23. (Previously Presented) The molding apparatus of claim 22, wherein the pressure adjustment mechanisms control a shifted eccentricity of at least one of the pair

of molding die members by regulating pressure of the pressure-transfer medium supplied from the plurality of supply ports.

24. (Previously Presented) The molding apparatus of claim 22, wherein the pressure adjustment mechanisms control a tilted eccentricity of at least one of the pair of molding die members by regulating pressure of the pressure-transfer medium supplied from the plurality of supply ports.

25. (Original) The molding apparatus of claim 14, wherein the molded products are optical elements.

26. (Previously Presented) A molding apparatus comprising:
a molding die comprising
a molding means for forming a molding cavity that molds molded products;
a holding means for holding therein the molding means slidably, an inner surface of the holding means and an outer surface of the molding means being separated by a clearance;
a plurality of supplying means for supplying a pressure-transfer medium located on one of the inner surface of the holding means and the outer surface of the molding means, and
a static pressure film of the pressure-transfer medium, the static pressure film filling the clearance; and

an outer pressure medium transfer means for transferring the pressure-transfer medium to the supply port,

wherein the molding means can be slid or held in the holding means by the static pressure film while the molding means and the holding means are in a non-contact state.

27. (Previously Presented) The molding apparatus of claim 26, wherein the outer pressure medium transfer means is a compressor.

28. (Previously Presented) A molding die comprising:

a molding means for forming a molding cavity that molds molded products;

a holding means for holding therein the molding means slidably, an inner surface of the holding means and an outer surface of the molding means being separated by a clearance;

a plurality of supplying means for supplying a pressure-transfer medium located on one of the inner surface of the holding means and the outer surface of the molding means; and

a static pressure film of the pressure-transfer medium, the static pressure film filling the clearance;

wherein the molding means can be slid or held in the holding means by the static pressure film while the molding means and the holding means are in a non-contact state.

29. (Previously Presented) A molding die comprising:

a molding cavity formed by a pair of molding die members which is held slidably in a holding member, an inner surface of the holding member and an outer surface of the pair of molding die members being separated by a clearance;

a plurality of supply ports that supply a pressure-transfer medium located on one of the inner surface of the holding member and the outer surface of the pair of molding die members; and

a static pressure film of the pressure-transfer medium, the static pressure film filling the clearance;

wherein the pair of molding die members can be slid or held in the holding member by the static pressure film while the pair of molding die members and the holding member are in a non-contact state.

30. (Previously Presented) A molding apparatus comprising:

a molding die comprising

a molding cavity formed by a pair of molding die members which is held slidably in a holding member, an inner surface of the holding member and an outer surface of the pair of molding die members being separated by a clearance; and

a plurality of supply ports that supply a pressure-transfer medium located on one of the inner surface of the holding member and the outer surface of the pair of molding die members; and

a static pressure film of the pressure-transfer medium, the static pressure film filling the clearance; and

a pressure-transfer medium supplying means for supplying the pressure-transfer medium to the clearance between the molding die member and the holding member,

wherein the pair of molding die members can be slid or held in the holding member by the static pressure film while the pair of molding die members and the holding member are in a non-contact state.

31. (Previously Presented) A molding die comprising:

a pair of molding die members that forms a molding cavity that molds molded products;

a holding member that holds therein the pair of molding die members slidably, an inner surface of the holding member and an outer surface of the pair of molding die members being separated by a clearance;

a plurality of supply ports that supply a pressure-transfer medium located on one of the inner surface of the holding member and the outer surface of the pair of molding die members, the plurality of supply ports being arranged at equally spaced intervals on the inner surface or the outer surface in a direction perpendicular to an axial direction of the holding member; and

a static pressure film of the pressure-transfer medium, the static pressure film filling the clearance,

wherein the pair of the molding die members can be slid or held in the holding member by the static pressure film while the pair of the molding die members and the holding member are in a non-contact state.

32. (Previously Presented) The molding die of claim 31, wherein the clearance between the pair of molding die members and the holding member is within a range of 0.1 – 100 μm .

33. (Previously Presented) The molding die of claim 31, wherein the pressure-transfer medium is gas or liquid.

34. (Previously Presented) The molding die of claim 31, further comprising a supply path for the pressure-transfer medium connected to the plurality of supply ports; and

a fixed throttle provided on the supply path for regulating a flow of the pressure-transfer medium;

wherein the plurality of supply ports are provided on one of the pair of molding die members for supplying the pressure-transfer medium to the clearance between the pair of molding die members and the holding member.

35. (Previously Presented) The molding die of claim 31, wherein the plurality of supply ports are provided on one of the pair of molding die members for supplying the

pressure-transfer medium to the clearance between the pair of molding die members and the holding member,

wherein a circumference of at least one of the plurality of supply ports is recessed.

36. (Previously Presented) The molding die of claim 31, further comprising, a supply path for the pressure-transfer medium connected to the plurality of supply ports; and

an automatic adjusting throttle provided on the supply path;

wherein the plurality of supply ports are provided on the holding members for supplying the pressure-transfer medium to the clearance between the pair of molding die members and the holding member.

37. (Previously Presented) The molding die of claim 31, wherein at least one of the supply ports is a porous member through which the pressure-transfer medium is supplied to the clearance.

38. (Previously Presented) The molding die of claim 31, wherein at least one of the pair of molding die members or the holding member is made of ceramic material.

39. (Previously Presented) The molding die of claim 31, wherein the molded products are optical elements.

40. (Previously Presented) A molding apparatus comprising:

- a molding die comprising
 - a pair of molding die members that form a molding cavity for molding molded products;
 - a holding member that holds therein the pair of molding die members slidably, an inner surface of the holding member and an outer surface of the pair of molding die members being separated by a clearance;
 - a plurality of supply ports that supply a pressure-transfer medium located on one of the inner surface of the holding member and the outer surface of the pair of molding die members, the plurality of supply ports being arranged at equally spaced intervals on the inner surface or the outer surface in a direction perpendicular to an axial direction of the holding member; and
 - a static pressure film of the pressure-transfer medium, the static pressure film filling the clearance; and
 - a pressure-transfer medium supplying means for supplying the pressure-transfer medium to the clearance between the molding die member and the holding member;
- wherein the pair of molding die members can be slid or held in the holding member by the static pressure film while the pair of molding die members and the holding member are in a non-contact state.

41. (Previously Presented) The molding apparatus of claim 40, wherein the clearance between the pair molding die members and the holding member is within a range of 0.1 – 100 μm .

42. (Previously Presented) The molding apparatus of claim 40, wherein the pressure-transfer medium is gas or liquid.

43. (Previously Presented) The molding apparatus of claim 40, wherein the pressure-transfer medium supplying means supplies the pressure-transfer medium to the clearance under a pressure of 200 kPa – 2000 kPa.

44. (Previously Presented) The molding apparatus of claim 40, wherein the pressure-transfer medium supplying means supplies the pressure-transfer medium to the clearance at temperature of 100 - 1000°C.

45. (Previously Presented) The molding apparatus of claim 40, wherein the pressure-transfer medium supplying means supplies the pressure-transfer medium to the clearance at temperature of $(T - 200^{\circ}\text{C})$ to $(T + 200^{\circ}\text{C})$, where T represents glass transition point of a material for the molded products.

46. (Previously Presented) The molding apparatus of claim 40, further comprising a plurality of pressure adjustment mechanisms for adjusting pressure, wherein the pressure adjustment mechanisms control a distance of the clearance between at least one of the pair of molding die members and the holding member by regulating pressure of the pressure-transfer medium supplied from the plurality of supply ports.

47. (Previously Presented) The molding apparatus of claim 40, wherein the pressure adjustment mechanisms control a shifted eccentricity of at least one of the pair of molding die members by regulating pressure of the pressure-transfer medium supplied from the plurality of supply ports.

48. (Previously Presented) The molding apparatus of claim 40, wherein the pressure adjustment mechanisms control a tilted eccentricity of at least of the pair of molding die members by regulating pressure of the pressure-transfer medium supplied from the plurality of supply ports.

49. (Previously Presented) The molding apparatus of claim 40, wherein the molded products are optical elements.

50. (Currently Amended) A molding die comprising:

- a pair of molding die members that forms a molding cavity that molds molded products;
- a holding member that holds therein the pair of molding die members slidably, an inner surface of the holding member and an outer surface of the pair of molding die members being separated by a clearance;
- a plurality of supply ports that supply a pressure-transfer medium located on one of the inner surface of the holding member and the outer surface of the pair of molding die members; and

a static pressure film of the pressure-transfer medium, the static pressure film filling the clearance;

wherein not all of the plurality of supply ports are ~~vertically aligned~~ in a straight line in the axial direction of the pair of molding die members; and

wherein the pair of molding die members can be slid or held in the holding member by the static pressure film while the pair of molding die members and the holding member are in a non-contact state.

51. (Currently Amended) A molding apparatus comprising:

a molding die comprising

a pair of molding die members that form a molding cavity for molding molded products;

a holding member that holds therein the pair of molding die members slidably, an inner surface of the holding member and an outer surface of the pair of molding die members being separated by a clearance;

a plurality of supply ports that supply a pressure-transfer medium located on one of the inner surface of the holding member and the outer surface of the pair of molding die members; and

a static pressure film of the pressure-transfer medium, the static pressure film filling the clearance; and

a pressure-transfer medium supplying means for supplying the pressure-transfer medium to the clearance between the molding die member and the holding member;

wherein not all of the plurality of supply ports are ~~vertically aligned~~ in a straight line in the axial direction of the pair of molding die members; and

wherein the pair of molding die members can be slid or held in the holding member by the static pressure film while the pair of molding die members and the holding member are in a non-contact state.